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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,392

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09/14/2006

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EXAMINER

SUNG, CHRISTINE

ART UNIT

PAPER NUMBER

2884

DATE MAILED: 09/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/787,392	<b>Applicant(s)</b> NAKAJO, MASAKAZU	
	<b>Examiner</b> Christine Sung	<b>Art Unit</b> 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

***Response to Amendment***

1. The request for reconsideration filed on July 13, 2006 has been accepted and entered.

***Claim Objections***

2. Claims 1-4, 7-10 and 12-18 are objected to because of the following informalities:

Regarding the claims, the use of the phrase “stimulable phosphor sheet” is unclear as well as confusing. Although applicant is allowed to be his own lexicographer, the use of applicant’s own terms is limited when it causes confusion within a claim. (See below response to arguments).

3. Regarding claims 1-4, 7-10 and 12-18, the claims recite that the stimulable phosphor sheet is stored in a “case.” However, the claims also recite a “casing” that stores the stimulable phosphor sheet. The specification discloses the entire housing where the stimulable phosphor is stored is called the “case” (see figure 7, element 70 or Figure 8, element 110), however the specification further discloses that the bottom half of the “case” is considered the “casing” (see figure 7, element 74 and figure 8, element 114). The identification of the elements in this fashion is confusing and unclear.

4. Regarding claim 15, the claim discloses “a radiation image forming cassette” that comprises “a pair of cassettes stacked together,” again applicant is using the same word “cassette” for different meanings within a claim making the claim confusing and unclear.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Shoji (US Patent 6,969,861 B2).

Regarding claim 1, Shoji discloses a radiation image-forming unit (Figure 2) comprising:

A stimuable phosphor sheet (element 9) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information; and

A case for storing the stimuable phosphor sheet (element 11a),

Wherein a sheet member of a different material (element 12) is attached (via double sided tape, see column 15, lines 60-67) to said stimuable phosphor sheet.

7. Claims 1-4, 8- 10 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Tamura (US Patent 4,681,227 A).

Regarding claim 1, Tamura discloses a radiation image-forming unit (Figures 2 and 3) comprising:

A stimuable phosphor sheet (element 6a and 4) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information; and

A case for storing the stimuable phosphor sheet (elements 1 and 2),

Wherein a sheet member of a different material (element 6b) is attached (phosphor is grown on the substrate) to said stimuable phosphor sheet (element 6a).

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Regarding claim 2, Tamura discloses a radiation image forming unit (Figures 2 and 3) wherein the stimuable phosphor sheet has a recess (element 7), said sheet member of the different material (element 6b) being detachable mounted in said recess (see figure 3, element 6B is detachable from the recess, element 7) by a fastening member (the sheet member is secured by the case).

Regarding claim 3, Tamura discloses a radiation image forming unit (Figures 2 and 3) wherein the stimuable phosphor sheet has a frame (element 4), said recess (element 7) being defined in a surface of said frame (see figure 3) said stimuable phosphor sheet having a phosphor layer (element 6A) detachable mounted in a recess (see figure 3, element 6A is detachable from element 4) defined in another surface of said frame.

Regarding claim 4, Tamura discloses a radiation image-forming unit (Figures 2 and 3) comprising:

A stimuable phosphor sheet (element 6a and 4) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information; and

A case for storing the stimuable phosphor sheet (elements 1 and 2),

Wherein a sheet member of a different material (element 6b) is removably attached to a surface of said case (elements 6a and 6b are both removably attached to the case, see figure 3) which is exposed to radiation applied to said stimuable phosphor sheet, and wherein said case has a recess (element 7), said sheet member of the different material being detachably mounted in said recess by a fastening member.

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Regarding claim 8, Tamura discloses a radiation image-forming unit (Figures 2 and 3) comprising:

A stimuable phosphor sheet (element 6a and 4) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information; and

A case for storing the stimuable phosphor sheet (elements 1 and 2),  
Wherein a sheet member of a different material (element 6b) is attached to said case (see figure 3, element 6a and 6b are removable from the case elements 1 and 2), and

Wherein said case comprises:

A casing (elements 1 and 2) for storing said stimuable phosphor sheet (elements 6a and 4); and

A lid that opens (element 1) and closes on said casing;

Said sheet member of a different material (element 6b) being detachable mounted on an inner surface of said lid (see figure 3, element 6b is removably attached to the lid/casing).

Regarding claim 9, Tamura discloses a radiation image-forming unit (figures 2 and 3) comprising:

A stimuable phosphor sheet (elements 6a and 4) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information; and

A case for storing said stimuable phosphor sheet (element 1 and 2),

Wherein a removable sheet member of a different material (element 6b) is removably attached to said case (element 6b is removable from the case) , and

Wherein said case comprises a tray (element 1) for being stored in an opening defined in a side of a said case, said tray having:

A cap for closing and opening (element 2);

Said removable sheet member of the different material (element 6b is stored in element 1); and

Said stimuable phosphor sheet (element 6a and 4 are stored in element 1).

Regarding claim 10, Tamura discloses a radiation image-forming cassette (element 3) for storing a stimuable phosphor sheet (elements 6a and 4) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information,

said radiation forming cassette having a sheet member of a different material (element 6b) from the radiation image forming cassette,

said sheet member (element 6B) being mounted on at least one surface of the radiation image-forming cassette (see figure 3, element 6b is mounted in the cassette),

wherein said sheet member (element 6B) is removably attached to a surface of said cassette (element 6B is removable, see figure 3 from the cassette), which is exposed to radiation applied to said stimuable phosphor sheet (see figure 3, element 20).

Regarding claim 12, Tamura discloses a radiation image-forming cassette wherein the surface of the radiation image-forming cassette has a recess (element 7), said sheet member of the different material (element 6B) being mounted in said recess (see figure 3).

Regarding claim 13, Tamura discloses a radiation image-forming cassette (figures 2 and 3) wherein said sheet member of the different material (element 6B) is removably attached to the radiation image-forming cassette (element 6B is removably attached to the cassette, see figure 3).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (US Patent 4,681,227 A) in view of Sayed (US Patent 5,773,832 A).

11. Regarding claim 14, Tamura disclose the limitation set forth in claim 10, but does not specify that said radiation image forming cassette has a thickness, which is at most 1/2 of a standard value according to ISO 4090. First, it is obvious that the standard ISO 4090 is used, as such a standard by definition is the standard film dimension used for medical radiography, which



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is 14mm. Sayed discloses a cassette with a thickness of 8mm (Figure 7, element Th and column 6, lines 17-21), slightly over  $\frac{1}{2}$  the ISO 4090 value. One of ordinary skill in the art would be motivated to have a cassette thickness less than 8 mm, as disclosed by Sayed as decreasing the thickness would increase portability of the imager.

12. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (US Patent 4,681,227 A) in view of Sayed (US Patent 5,773,832 A) further in view of Walker (US Patent 6,158,888A).

Regarding claims 15 and 16, Tamura in view of Sayed discloses the limitation set forth in claim 14, but does not specify that the cassette comprises a pair of cassettes stacked together, protrusions are formed on a frame of one of said pair of cassettes, and recesses are formed on a frame of the other of said pair of cassettes, respectively, and said protrusions are fitted in said recesses such that said pair of cassettes are in alignment with each other. Further, regarding claim 16, Tamura in view of Sayed does not specify that a marking is provided on a radiation image recording area of said cassette for adjusting a position of a radiation image recorded in said radiation image recording area.

Walker discloses a set of cassettes stacked together (see figure 12), that are aligned by using markings that are built into the cassette (see figure 11) and adjusting them until they match. Although, Walker does not specify using the recesses to align the cassettes, the markings provided on the cassettes perform the same function. One of ordinary skill in the art would be motivated to use stacked cassettes in order to increase the accuracy of the radiation detected by detecting in multiple dimensions and also to increase the accuracy by detecting radiation using different films/phosphors to detect different radiation energies.

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13. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (US Patent 4,681,227 A) in view of Shoji (US Patent 6,969,861 B2).

Regarding claims 17-18, Tamura discloses the limitations set forth in claims 2 and 4 respectively, and further discloses a fastening member (the casing that fastens the phosphor sheet to the casing). Tamura does not explicitly disclose that the fastening member is double-sided tape. However, Shoji discloses a radiation image phosphor panel (Figure 2) and further discloses attaching a grid member to the radiation image phosphor panel with double sided tape (see column 15, lines 60-67). One of ordinary skill in the art would be motivated to use double-sided tape as a fastening member as it is a conventional material used to temporarily secure elements and ensure correct placement of elements.

14. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamura (US Patent 4,681,227 A) in view of Wendlandt (US Patent 5,943,390 A).

Regarding claim 7, Tamura disclose a radiation image forming unit (figures 2 and 3) comprising:

A stimuable phosphor sheet (elements 6a and 4) repeatedly usable for recording the radiation image information of a subject based on radiation applied thereto and erasing the recorded radiation image information; and

A case for storing said stimuable phosphor sheet (element 1 and 2),

Wherein a sheet member of a different material is attached to said case (element 6B is attached to case, element 1, see figure 6), and

Wherein said case (elements 1 and 2) comprises:

A casing (element 1) for storing said stimuable phosphor sheet (element 6a); and

A light shield plate detachably mounted on said casing (element 2),

Said sheet member of the different material being detachable mounted on an inner surface of said light shield plate (see figure 3, element 6B is detachable from elements 1 and 2). Tamura does not explicitly state that the light-shielding element (element 2) has a lid that is angularly mounted on the light shield plate. However, such a configuration is known in the art, as disclosed by Wendlandt (See figure 6a, element 62). One of ordinary skill in the art would be motivated to modify the invention as disclosed by Tamura with the invention as disclosed by Wendlandt in order to have greater access the stimuable phosphor.

### ***Response to Arguments***

15. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

16. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

17. Regarding the claims, Applicant uses the term "stimuable phosphor sheet" throughout the application to include a many elements (see figure 2, applicant designates all of the elements listed in figure 2 as a stimuable phosphor sheet, element 12). Conventionally when one discloses a stimuable phosphor sheet, it usually defines a phosphor layer, such as element 16. What makes the use of the term confusing is the references made to the elements of applicant's defined "stimuable phosphor sheet." For example claim 3 states a radiation image-forming unit where the stimuable phosphor sheet has a frame, two recesses within the frame, etc.

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18. Further the claims are also unclear because it is unclear as to what element is being detached/attached from what other element. For example in claim 2, the claim states that the sheet member is detachably mounted in the recess, however there is no limitation that it must be directly attached/detached to the recess. Therefore since the whole element (element 6a and 6b) in the Tamura reference is detachable from the recess, the sheet member is which is a part of the whole element is also detachably mounted to the recess.

19. In light of the unclear claim language the claims have been interpreted using the broadest reasonable meaning. The examiner suggests claim language that defines the desired layering scheme, rather than trying to use definitions that interrelate to the elements.

20. Further, the examiner suggests defining a sheet member of a different material (i.e. a carbon sheet or a lead sheet) as such language is given its broadest interpretation and can be read to include a substrate.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Sung whose telephone number is 571-272-2448. The examiner can normally be reached on Monday- Friday 7-3 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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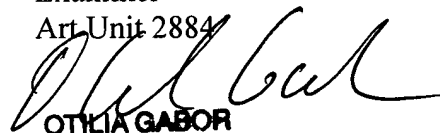
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CS

Christine Sung

Examiner

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**OTILIA GABOR**  
**PRIMARY EXAMINER**